Course Specifications
Valid as from the academic year 2019-2020

Applied Plant Breeding (I700174)

Course
Lecturers in academic year 2019-2020
Haesaert, Geert
LA21 lecturer-in-charge

Course offerings and teaching methods in academic year 2019-2020
A (semester 2) Dutch
lecture 24.0 h
seminar: coached exercises 3.0 h
excursion 9.0 h

Offered in the following programmes in 2019-2020
Bachelor of Science in Bioscience Engineering Technology 3 A
Master of Science in Bioscience Engineering Technology: Agriculture and Horticulture (main subject Horticulture) 3 A
Master of Science in Bioscience Engineering Technology: Agriculture and Horticulture (main subject Plant and Animal Production) 3 A
Master of Science in Bioscience Engineering Technology: Agriculture and Horticulture (main subject Tropical Plant Production) 3 A

Teaching languages
Dutch

Keywords
Agriculture, genetics, selection systems and methods, flower morphology

Position of the course
The genetic improvement of crops is since the domestication of plants one of the most important yield determining factors in plant production and is seen as one of the key element to ensure food security worldwide. Masters in biosciences: agriculture and horticulture must have knowledge of plant breeding and the basic techniques to develop a new variety.

Contents
1 Biodiversity and gene centres of crop
2 Flower morphology, apomixis, incompatibility and male sterility
3 Breeding criteria and development of breeding program
4 Selection systems in relation to pollination modes
5 Hybrid -, polyploidy- and mutation breeding
6 Genetic identification techniques and marker assistent breeding

Initial competences
This course build on some final competences of plant morphology and anatomy, plant physiology, crop husbandry, data processing and genetics

Final competences
1 To be able to develop a breeding sytem and to determine clear breeding goals based on crop characteristics
2 To gain knowledge about the varietal background and - multiplication
3 To be able to design field experiments for plant breeding purposes

Course size (nominal values; actual values may depend on programme)
Credits 3.0 Study time 90 h Contact hrs 36.0 h

Dutch
1 A (semester 2)

36.0 h

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(Approved)
4 To be able to deal with the complexity of breeding systems

Conditions for credit contract
Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract
This course unit cannot be taken via an exam contract

Teaching methods
Excursion, lecture, seminar: coached exercises

Extra information on the teaching methods
Excursion, lectures, seminars: coached exercises
Course is illustrated with up-to-date slides
Excursions: visits to plant breeding and biotech companies
Exercises: theoretical exercises

Learning materials and price
syllabus is available

References
Scientific literature, research results, trade journals, specialized websites

Course content-related study coaching
Possibilities to ask questions on a regular base
Study progress tests during practicum

Evaluation methods
end-of-term evaluation and continuous assessment

Examination methods in case of periodic evaluation during the first examination period
Oral examination

Examination methods in case of periodic evaluation during the second examination period
Oral examination

Examination methods in case of permanent evaluation
Report
Possibilities of retake in case of permanent evaluation
examination during the second examination period is possible

Extra information on the examination methods
Theory: written examination with open questions
Exercises: permanent evaluation, reports

Calculation of the examination mark
Theory: 70 %
Exercises: 30 %